Appl. No. 10/634,351

Atty. Docket No.: 2002B107A

Office Action mailed January 8, 2009

Amendment and Response dated May 8, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in this application.

Listing of Claims:

- 1. (Currently Amended) A plasticized polyolefin composition comprising from 99 wt% to 60 wt% polyolefin; and from 1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is polypropylene homopolymer having a melt flow rate of from 0.1 to 2500 dg/min or propylene copolymer having up to 0.1 to 30 wt% of a comonomer selected from the group consisting of ethylene and C4 to C20 alpha-olefins, said copolymer having a melt flow rate of from 0.1 to 2500 dg/min, and wherein polyethylene homopolymer and copolymer having a weight average molecular weight of from 500 to 10,000 is substantially absent from the composition.
- 2. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer comprises C_8 to C_{100} paraffins.
- 3. (Cancelled)
- 4. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer comprises C_{10} to C_{100} n-paraffins.
- 5. (Original) The composition of Claim 1, wherein the T_g of the polyolefin decreases from 4 to 10° C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C.
- 6. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer has a pour point of less than -40°C.

• ,

- 7. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer has a viscosity of from 10 to 200 cSt at 100°C.
- 8. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer has a dielectric constant at 20°C of less than 2.3.
- 9. (Previously Presented) The composition of Claim 1, wherein the non-functionalized plasticizer has a specific gravity of less than 0.91.
- 10. (Original) The composition of Claim 1, wherein aromatic moieties are substantially absent from the non-functionalized plasticizer.
- 11. (Original) The composition of Claim 1, wherein the weight average molecular weight of the non-functionalized plasticizer is from 100 to 25,000 g/mol.
- 12. (Original) The composition of Claim 1, wherein the weight average molecular weight of the non-functionalized plasticizer is from 200 to 10,000 g/mol.

13. - 15. (Cancelled)

- 16. (Previously Presented) The composition of Claim 1, further comprising slip agent.
- 17. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer has a weight average molecular weight of 100 to 25,000 g/mol and comprises C6 to C200 paraffins having a pour point of less than 30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is a propylene impact copolymer comprising from 40% to 95% by weight of a Component A and from 5% to 60% by weight of a Component B based on the total weight of copolymer; wherein Component A comprises propylene homopolymer or copolymer, the copolymer comprising 10% or less by weight ethylene, butene, hexene or octene comonomer; and wherein Component B comprises propylene copolymer, wherein the

copolymer comprises from 5% to 70% by weight ethylene, butene, hexene and/or octene comonomer, and from 95% to 30% by weight propylene.

- 18. (Cancelled)
- 19. (Cancelled)
- 20. (Previously Presented) An article of manufacture selected from films, sheets, fibers, woven and nonwoven fabrics, tubes, pipes, automotive components, furniture, sporting equipment, food storage containers, transparent and semi-transparent articles, toys, tubing and pipes, or medical devices comprising the composition of Claim 1.
- 21. (Cancelled)
- 22. (Previously Presented) The composition of Claim 17, wherein the non-functionalized plasticizer comprises C_8 to C_{100} paraffins.
- 23. (Cancelled)
- 24. (Previously Presented) The composition of Claim 17, wherein the non-functionalized plasticizer comprises C_{10} to C_{100} n-paraffins.
- 25. (Previously Presented) The composition of Claim 17, wherein the T_g of the polyolefin decreases from 4 to 10°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C.
- 26. (Previously Presented) The composition of Claim 17, wherein the non-functionalized plasticizer has a pour point of less than -40°C.
- 27. (Previously Presented) The composition of Claim 17, wherein the non-functionalized plasticizer has a viscosity of from 10 to 200 cSt at 100°C and is present at 1 to 40 wt% and the polyethylene homopolymer and copolymer having a weight average molecular weight of from 500 to 10,000 is substantially absent from the composition.

28. (Previously Presented) The composition of Claim 17 wherein the non-functionalized

plasticizer has a dielectric constant at 20°C of less than 2.3.

29. (Previously Presented) The composition of Claim 17 wherein the non-functionalized

plasticizer has a specific gravity of from 0.700 to 0.860.

30. (Previously Presented) The composition of Claim 17 wherein aromatic moieties are

substantially absent from the non-functionalized plasticizers.

31. (Previously Presented) The composition of Claim 17 wherein the weight average

molecular weight of the non-functionalized plasticizer is from 200 to 25,000 g/mol.

32. (Previously Presented) The composition of Claim 17 wherein the weight average

molecular weight of the non-functionalized plasticizer is from 200 to 10,000 g/mol.

33. (Currently Amended) A plasticized polyolefin composition comprising from 99.9 wt% to

60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer

having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500

cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt%

of non-functionalized plasticizer added to the composition, while the T_m remains within 1

to 2 °C, and wherein:

a) elastomers are substantially absent from the composition, and wherein

b) the polyolefin is selected from propylene homopolymers, propylene copolymers,

propylene impact copolymers, or mixtures thereof, where the propylene impact

copolymers are reactor blends,

c) the polyolefin has a melt flow rate of from 0.1 to 2500 dg/min, and

d) polyethylene homopolymer and copolymer having a weight average molecular weight

of from 500 to 10,000 is substantially absent from the composition.

34. (Cancelled)

35. (Previously Presented) An article of manufacture selected from films, sheets, fibers,

woven and nonwoven fabrics, tubes, pipes, automotive components, furniture, sporting

equipment, food storage containers, transparent and semi-transparent articles, toys, tubing

and pipes, or medical devices comprising the composition of Claim 17.

36. - 56. (Cancelled)

57. (Previously Presented) The composition of claim 1 wherein the non-functionalized

plasticizer has a pour point greater than -120 °C.

58. (Previously Presented) The composition of claim 1 wherein the non-functionalized

plasticizer has a pour point of less than -50°C.

59. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt%

to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer;

wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour

point of less than -60°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C

and wherein elastomers are substantially absent from the composition, and wherein the

polyolefin is selected from propylene homopolymers, propylene copolymers, propylene

impact copolymers, or mixtures thereof, where the propylene impact copolymers are

reactor blends.

60. (Previously Presented) The composition of claim 17, wherein the non-functionalized

plasticizer has a pour point greater than -120 °C.

61. (Previously Presented) The composition of claim 17, wherein the non-functionalized

plasticizer has a pour point of less than -50°C.

62. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt%

to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer

having a pour point of less than -60°C and a Kinematic viscosity of from 10 cSt to 500

cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt%

Page 6 of 18

of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends.

- 63. (Cancelled)
- 64. (Cancelled)
- 65. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, wherein the composition further comprises plastomer having a 1% secant flexural modulus of from 10 MPa to 150 MPa.
- (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% 66. to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, where the composition further comprises a plastomer which is a copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³.

Appl. No. 10/634,351

Atty. Docket No.: 2002B107A

Office Action mailed January 8, 2009

Amendment and Response dated May 8, 2009

- 67. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, where the composition further comprises a plastomer which is a copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³.
- 68. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends wherein the composition further comprises plastomer having a 1% secant flexural modulus of from 10 MPa to 150 MPa.
- 69. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene

impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends wherein the composition further comprises plastomer having a 1% secant flexural modulus of from 10 MPa to 150 MPa.

- 70. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends where the composition further comprises a plastomer which is a copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³.
- 71. (Cancelled)
- 72. (Cancelled)
- 73. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, wherein the composition further comprises plastomer having a 1% secant flexural modulus of from 10 MPa to 150 MPa.

- 74. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, where the composition further comprises a plastomer which is a copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³.
- 75. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends wherein the composition further comprises plastomer having a 1% secant flexural modulus of from 10 MPa to 150 MPa.
- 76. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact

copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends where the composition further comprises a plastomer which is a copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³.

- 77. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, wherein the composition further comprises a plastomer, which is a metallocene catalyzed copolymer of ethylene and from 2 to 35 weight % of alpha-olefin derived units selected from the group consisting of 1-butene, 1-hexene and 1-octene, wherein the plastomer has a density of from 0.860 to 0.900 g/cm³, an Mw/Mn of 1.5 to 5, a melt index between 0.1 and 20 dg/min, and a melting temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).
- 78. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, and wherein the composition further comprises plastomer having a melting temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).

Amendment and Response dated May 8, 2009

- 79. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends and wherein the composition further comprises plastomer having a melting temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).
- 80. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, wherein the composition further comprises plastomer having a melting temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).
- 81. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C; wherein the T_g of the polyolefin decreases by at least 2°C for every 4 wt% of non-functionalized plasticizer added to the composition, while the T_m remains within 1 to 2 °C, and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends wherein the composition further comprises plastomer having a melting

temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).

- 82. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, and wherein the composition further comprises plastomer having a melting temperature of from 30 to 80 °C (first melt peak) and from 50 to 125 (second melt peak).
- 83. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, and wherein the composition further comprises a metallocene catalyzed copolymer of ethylene and 1-butene, 1-hexene, or 1-octene having a density of 0.86 to 0.900 g/cm³ and an Mw/Mn of 1.5 to 5.
- 84. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene

Appl. No. 10/634,351

Atty. Docket No.: 2002B107A

Office Action mailed January 8, 2009

Amendment and Response dated May 8, 2009

impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, and wherein the composition further comprises a metallocene catalyzed copolymer of ethylene and 1-butene, 1-hexene, or 1-octene having a density of 0.86 to 0.900 g/cm³ and an Mw/Mn of 2.0 to 4.

85. (Previously Presented) A plasticized polyolefin composition comprising from 99.9 wt% to 60 wt% polyolefin; and from 0.1 wt% to 40 wt% of a non-functionalized plasticizer; wherein the non-functionalized plasticizer comprises C₆ to C₂₀₀ paraffins having a pour point of less than -30°C and a Kinematic viscosity of from 10 cSt to 500 cSt at 100 °C and wherein elastomers are substantially absent from the composition, and wherein the polyolefin is selected from propylene homopolymers, propylene copolymers, propylene impact copolymers, or mixtures thereof, where the propylene impact copolymers are reactor blends, and wherein the composition further comprises a metallocene catalyzed copolymer of ethylene and 1-octene having a density of 0.86 to 0.900 g/cm³ and an Mw/Mn of 1.5 to 5.

86. - 89. (Cancelled)